

Application No. 10/668,418

REMARKS

The claims have been rejected under 35 USC 102(b) in view of Shinada. Specifically, the Examiner points to column 4, lines 20-26 of Shinada to show a teaching of detecting, in the context of a traveling-shuttle corona-wire-cleaner, an increase in current consumption in an associated motor. This detection is used to control the reversal and stopping of the motor during a cycle of cleaning.

Claim 1 as previously amended, from which all of the pending claims are dependent, recites that the control means *measures a time* between an initiation of the motor and a condition of power consumption of the motor relative to a predetermined range (in the embodiment, a "spike"), and reacts to a fault condition if the measured time between the initiation of the motor and the spike is below a predetermined threshold. In other words, according to claim 1, a fault condition occurs if the "spike" ***comes too early***. Such a condition would typically occur if the shuttle were for whatever reason "stuck" in the middle of the corotron, which is a major malfunction of the machine.

The cited passage in Shinada teaches that, in controlling a shuttle for cleaning a corona wire, a timer can be used, or a current spike can be detected when the shuttle reaches an end of the corotron:

One cycle of operations of the drive motor 30, i.e., the timing for reversing the motor 30 upon the arrival of the cleaner support members 34 and 36 at the end block 16 and the timing for deenergizing the motor 30 upon the return of the members 34 and 36 to the home positions 34a and 36a may be governed by using a timer. **Alternatively**, the reversal and/or the subsequent stop of the motor 30 may be effected by **sensing an overcurrent** which flows when the cleaner support members 34 and 36 abut against the bearing 26 or the end block 14 due to the resulting increase in the load acting on the motor 30. (emphases added)

The important word in this passage is "Alternatively": there can be timing of the motion of the shuttle, or detection of an overcurrent spike. In clear contrast, the claimed invention ***times the spike***—there is a measurement of

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when the spike occurs. If the spike comes too early, then the system knows that the shuttle is stuck in the middle of the corotron. In Shinada, if *only* timing is used to control the shuttle, there is no way of knowing whether the shuttle successfully moved the entire length of the corotron; if *only* current spike detection is used, the shuttle could get stuck in the middle of the corotron, cause a spike, and then return to its home position— but the user would have no clue that the shuttle moved only halfway down the corotron. By *timing the spike*, the claimed invention provides a kind of feedback of the actual functioning of the shuttle.

Shinada does not teach detecting a current spike coming *earlier* than expected, as would happen if the shuttle became stuck in the middle of the corotron. Nor is there a suggestion in Shinada that it would be *desirable* to know if the shuttle gets stuck in the middle of the corotron. Absent such a teaching, Shinada does not anticipate Claim 1, nor can it be used to show obviousness of claim 1.

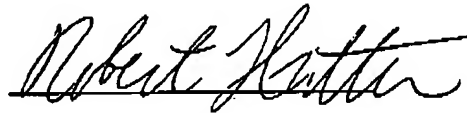
The remaining pending claims are all ultimately dependent from Claim 1. The claims are therefore in condition for allowance.

No additional fee is believed to be required for this amendment; however, the undersigned Xerox Corporation attorney authorizes the charging of any necessary fees, other than the Issue fee, to Xerox Corporation Deposit Account No. 24-0025.

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In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby requested to call the undersigned attorney at (585) 423-3811, Rochester, NY.

Respectfully submitted,



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